



***Welcome!***



Thank you for joining us today on the Long Island Sound Blue Plan Ecological Experts “Interested Parties” webinar. We welcome you!

***In order to minimize background noise on this webinar, all participants have been placed on mute until the discussion period.***

If you have any technical issues or if you have a question for the presenter, please send a message to the webinar host (Ian Yue) in the WebEx “Chat” feature.

The webinar will begin shortly. Stay tuned...



## **Long Island Sound Blue Plan:**

*Sustainable Ecosystems, Compatible Uses*

**Thank you for attending . . .**



# Webinar Agenda:

- Blue Plan purpose & process
- Ecological Characterization & “Ecologically Significant Areas”
- “Interested Parties” – where do you come in?
- What is happening now?
- Discussion



# Webinar Speakers/Panelists:

## **Nathan Frohling**

**Director of Coastal and Marine Initiatives, The Nature Conservancy of CT  
Blue Plan Advisory Committee member; Chair, Ecological Characterization Work Team**



## **Sylvain De Guise**

**Director, CT Sea Grant  
Blue Plan Advisory Committee member; Chair, Inventory & Science Subcommittee**



## **Kevin O'Brien**

**Senior Environmental Analyst, CT Dept. of Energy & Environmental Protection  
GIS and data expert with the Blue Plan**



# The BLUE PLAN

**Public Act 15-66**

**A Long Island Sound Blue Plan and Resource and Use Inventory**



# Blue Plan: guiding future uses of LIS

- **Marine spatial planning (MSP): spatial - what happens where**
- **Plan based on Inventory of ecological resources & existing uses**
- **Offshore, not shoreline**
- **Not new zoning or regulations**
- **Plan will guide/direct existing regulations & decision-making**



# Multiple Purposes:

- Protect traditional uses (e.g. fishing & boating)
- Protect ecosystem health (e.g. critical habitats)
- Integrate sustainable uses (e.g. seaweed farming)
- Reduce potential user conflicts



*Peter Auster*

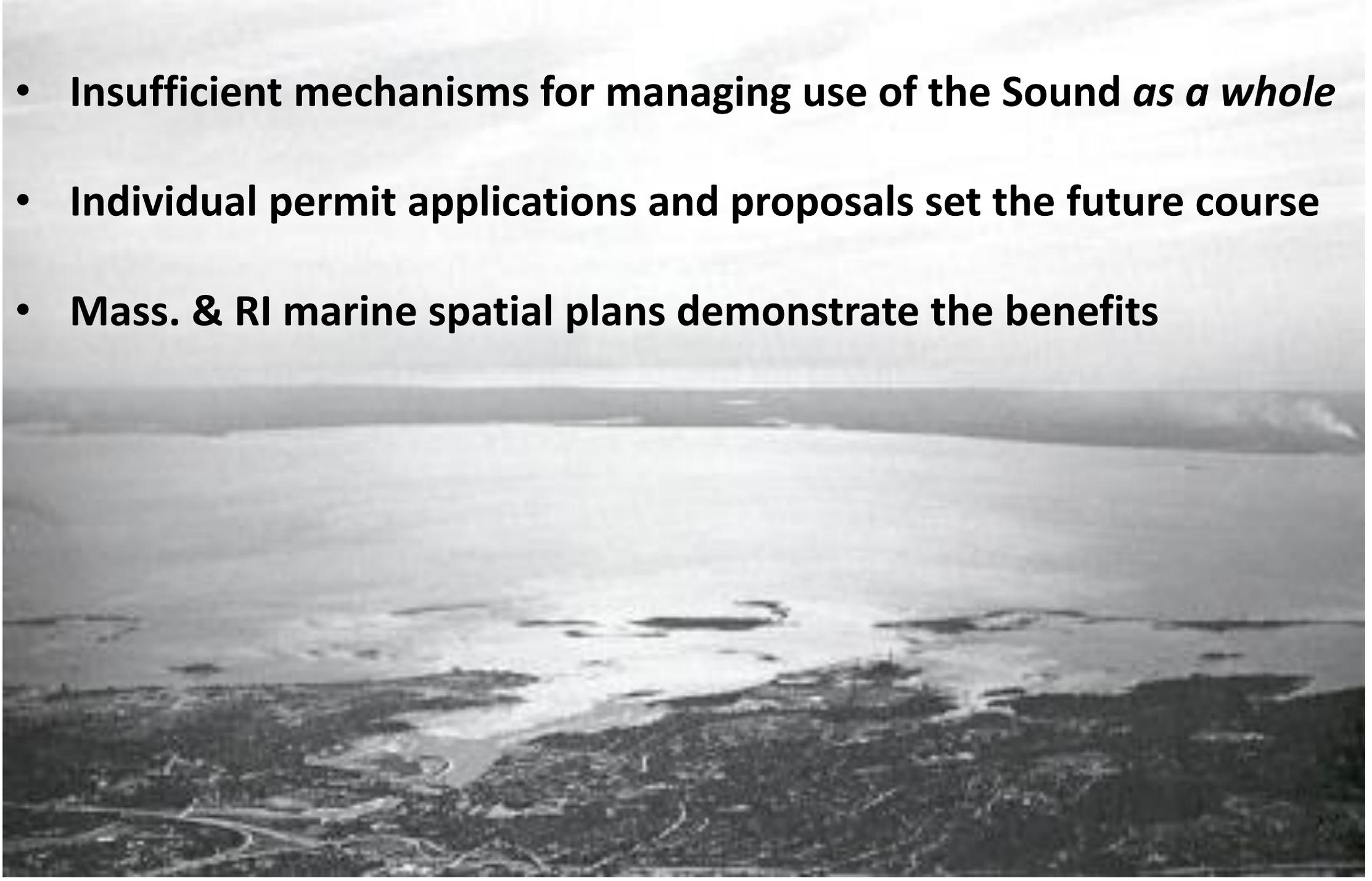


# Why do we need MSP for the Sound?

Multiple uses and increasing demands pose conflicts



- **Insufficient mechanisms for managing use of the Sound *as a whole***
- **Individual permit applications and proposals set the future course**
- **Mass. & RI marine spatial plans demonstrate the benefits**

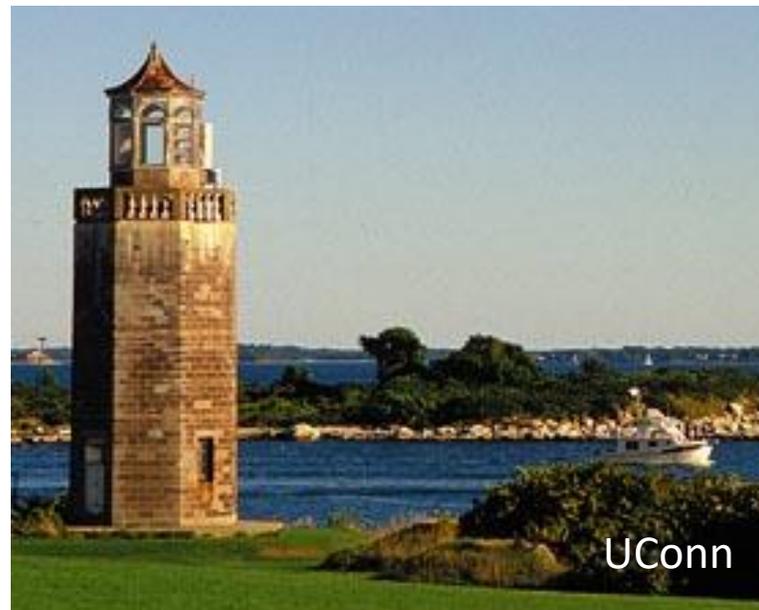


# Blue Plan Basics:

**Overall Lead: CT DEEP, Commissioner Klee**

**Resource & Use Inventory Convener: UConn**

**Advisory Committee: 16 members; State agencies & Stakeholders**



**Blue Plan Advisory Committee**

**Coordination and Support (DEEP)**

**Plan Development Team**

**Vision and Goals ad hoc Team**

**Inventory and Science Subcommittee (UConn)**

**Stakeholder Engagement Subcommittee**

**Policy Subcommittee**

**Ecological Characterization Work Team**

**Data & Mapping Work Team**

**Human Use Characterization Work Team**

# Boundaries:

Planning: MHWL

Policies: Seaward of 10' depth contour; downstream of bridges



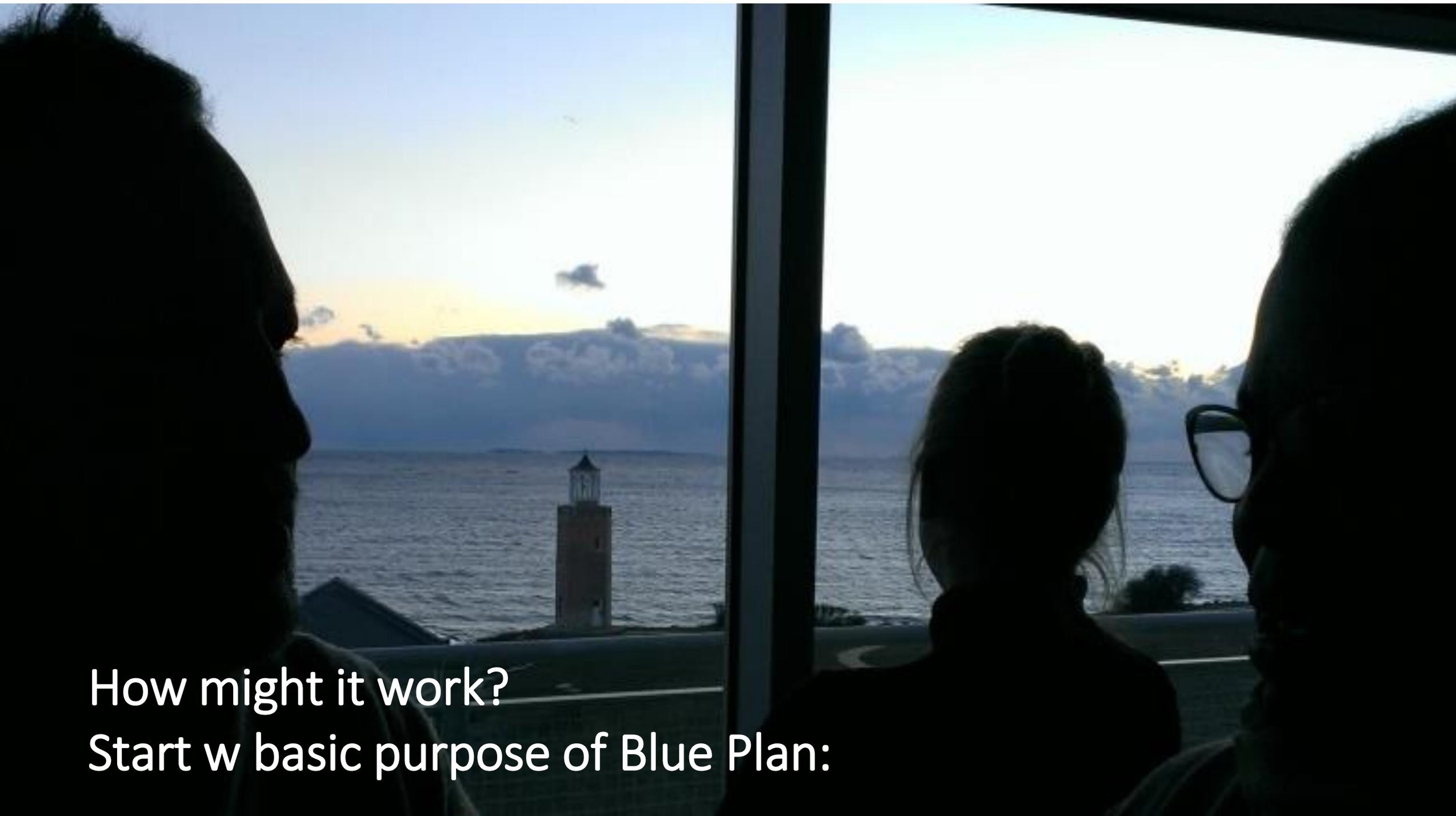
Timeline: Draft completed: March 2019

# Bi-State Approach . . . State of New York:

Blue Plan process shall:

“be coordinated, developed & implemented, to maximum extent feasible, w State of NY”





How might it work?

Start w basic purpose of Blue Plan:



**Identify and protect places of . . . traditional human use**

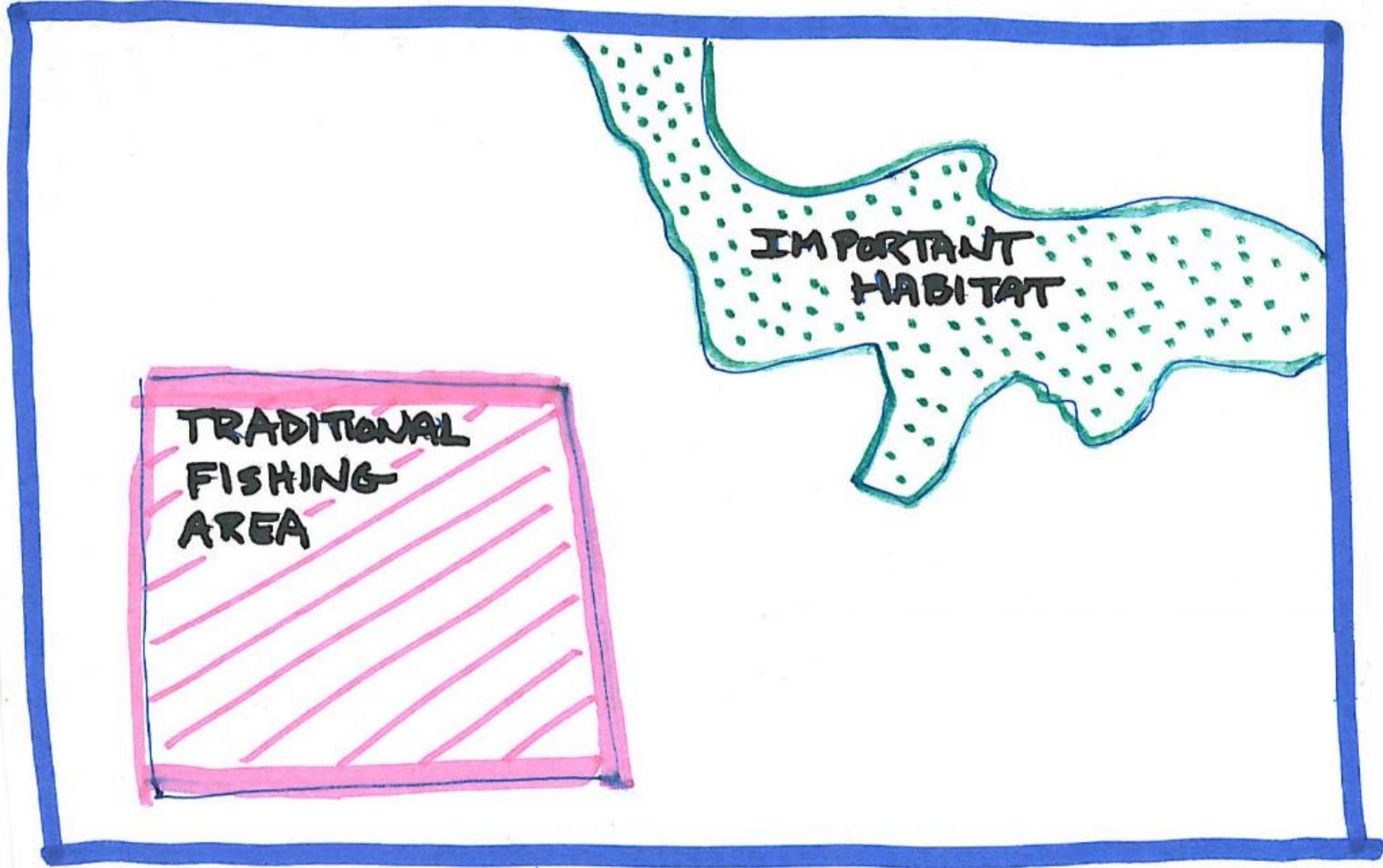
An underwater photograph showing a dense kelp forest. Several large, brownish-green kelp blades are visible, some with white spots. Several small, reddish-brown fish are swimming in the water. The background is dark and filled with many small, white, out-of-focus particles, possibly plankton or sediment. The overall scene is dimly lit, with some light reflecting off the kelp and fish.

**Identify & protect places of ecological significance**

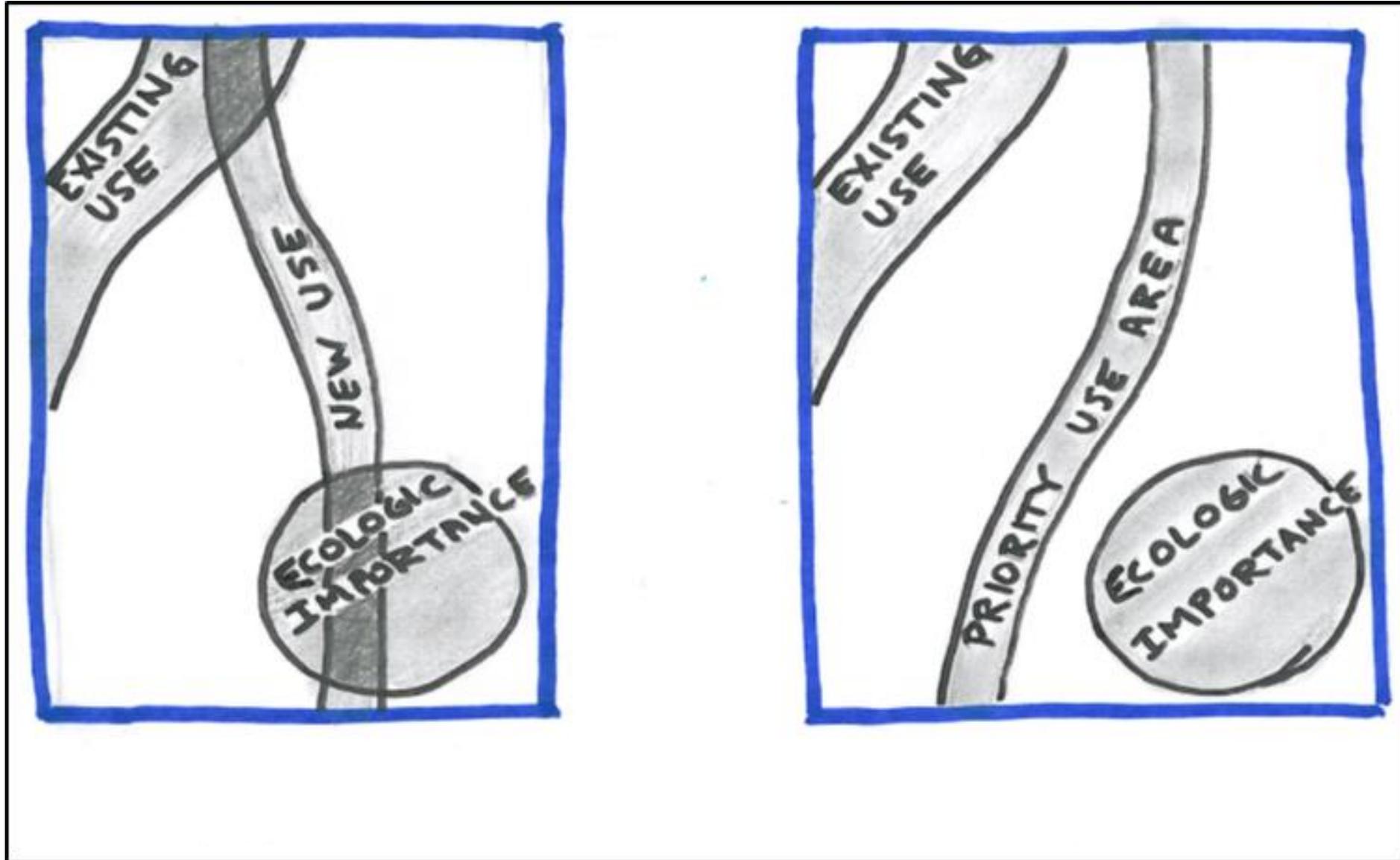
*Peter Auster*

# How?

## By identifying key human use & ecological areas



By directing & shaping future uses so they don't conflict w key areas



# Blue Plan will shape future uses

. . . thru decisions on new applications or shaping what applicants submit

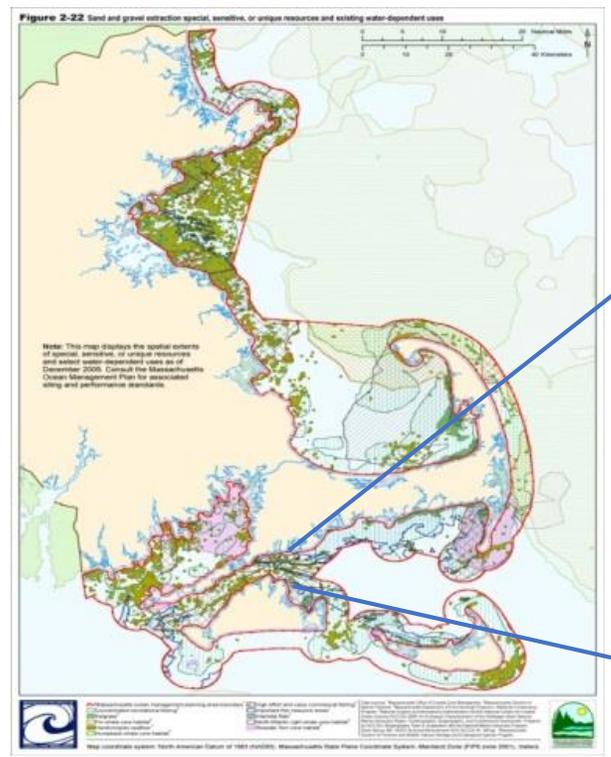
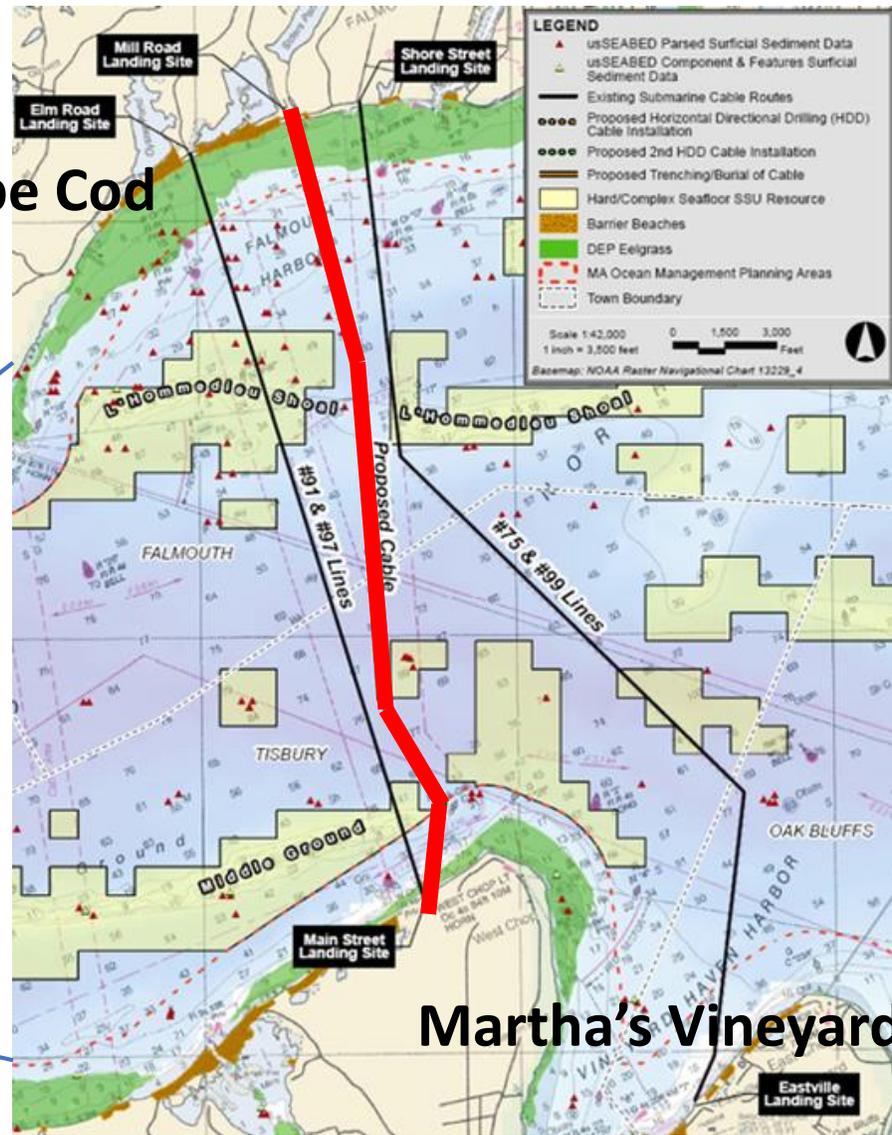




# Example: Hybrid fiber optic & electric power cable (Comcast & NSTAR Electric Co.)

Cape Cod

Martha's Vineyard



Bottom Line:

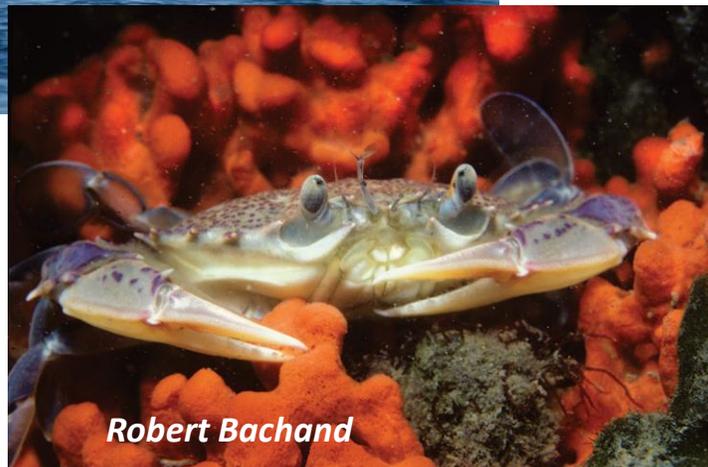
**Identifying and Establishing “Ecologically Significant Areas” is Key**



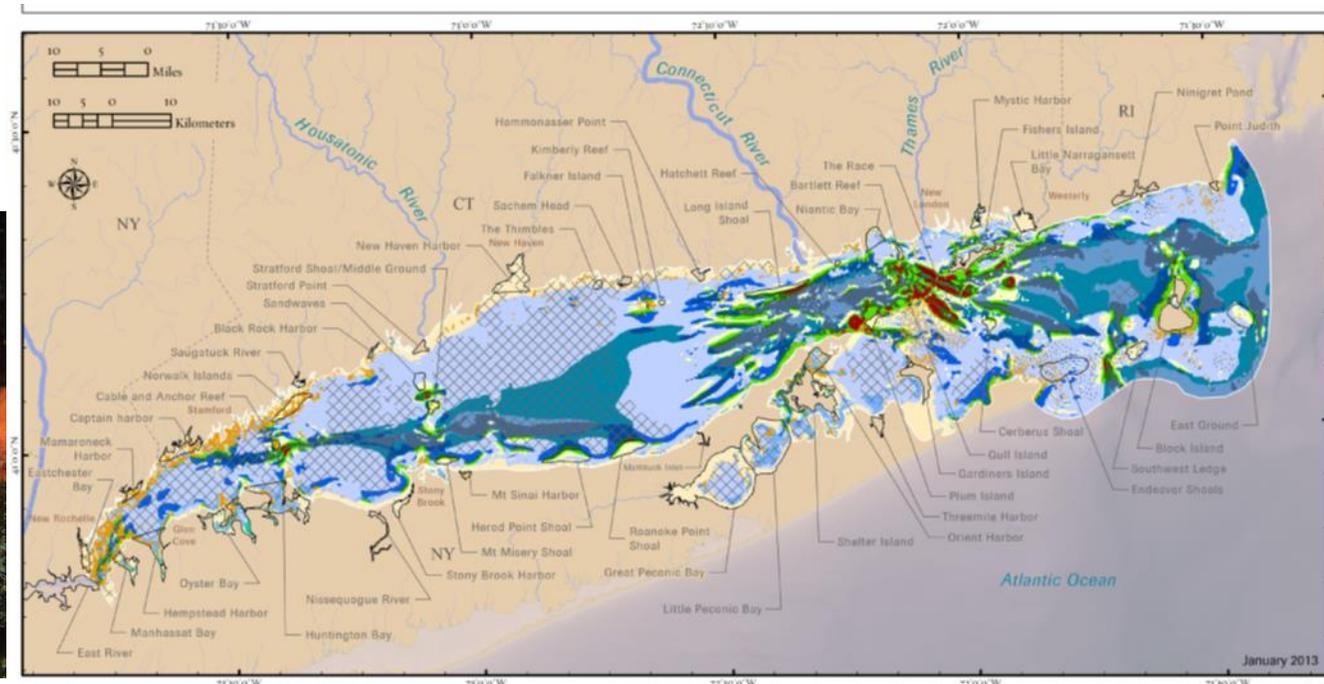
# Ecological Characterization & “Ecologically Significant Areas (ESA)”

## Ecological Characterization:

- Spatially characterizing the building blocks of the LIS ecosystem, its habitats and ecological features
- Needed to inform Blue Plan process and decisions concerning future uses
- Foundation for ESA’s



Robert Bachand



# Ecological Characterization:

## Preliminary categories:

(Reflects data)

### I. Living Resources

#### Plants

Seaweed/Algae

SAV

Other

#### Animals

Birds

Fish

Marine mammals & Sea Turtles

Plankton

Marine Invertebrates & Benthic Fauna

Other



## II. Environmental Characteristics

- Water Chemistry/Quality
- Meteorology
- Physical Oceanography
- Other

## III. Habitats

### Physical

Geology/Sediments/Topography

Bathymetry

### Biological

Species Persistence Areas

### Ecological

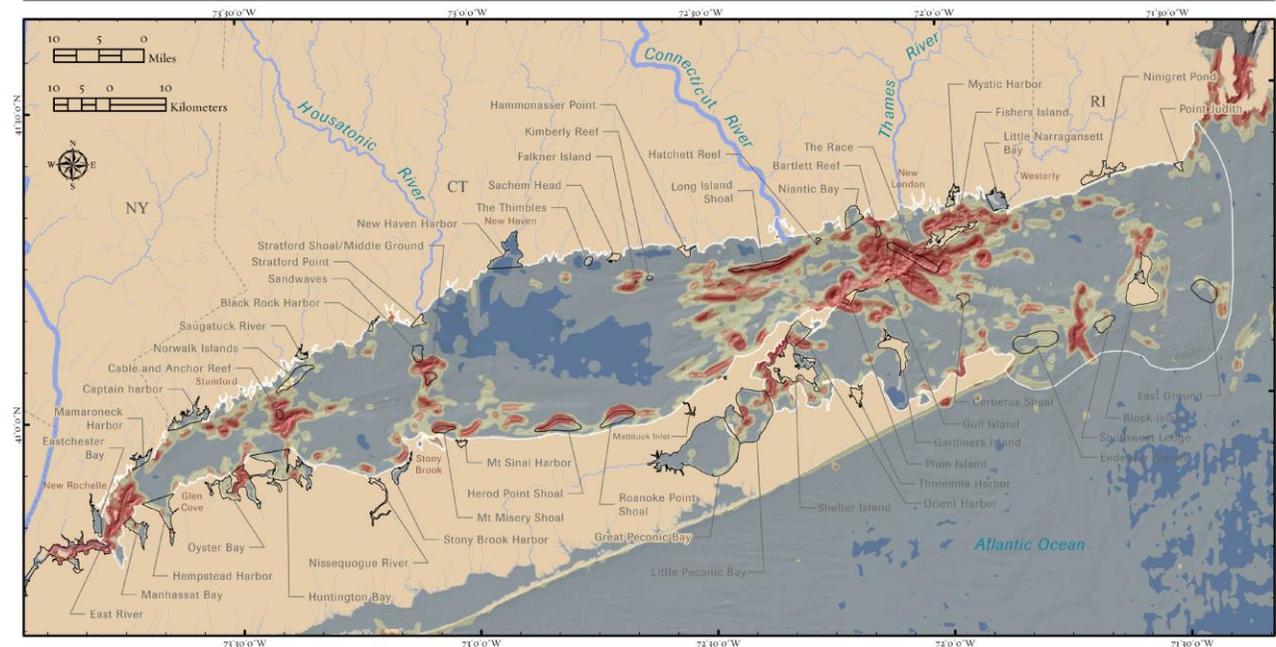
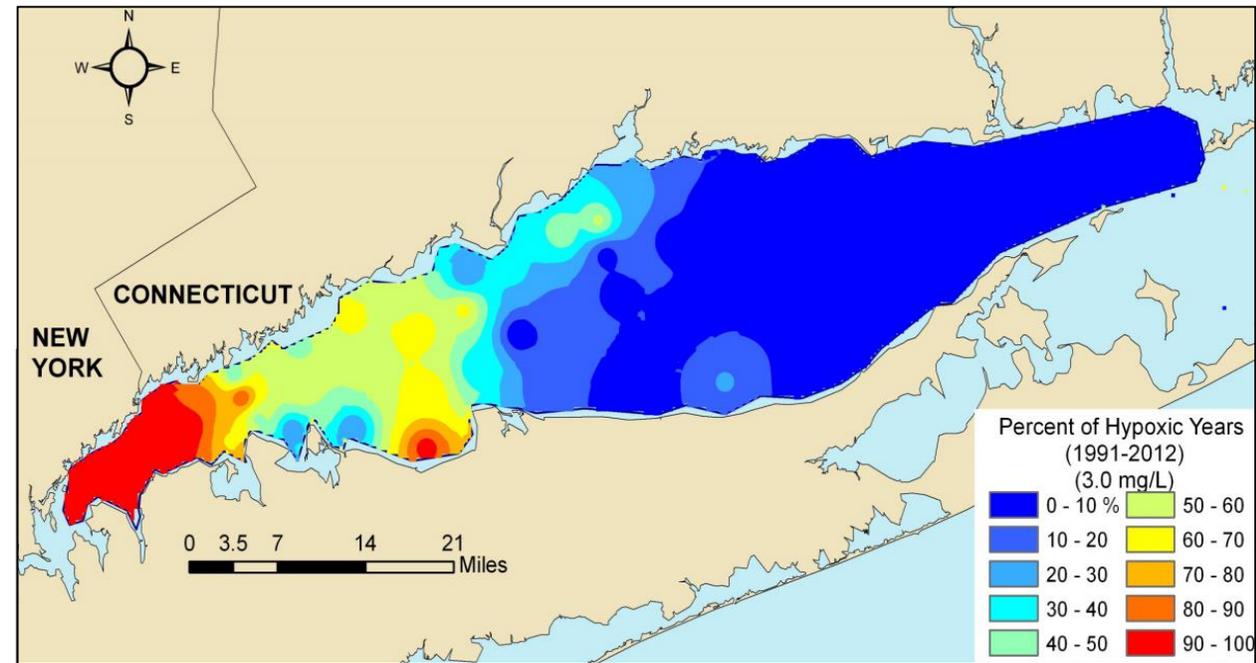
Seafloor Complexity

Ecological Marine Units

Habitat Classes/Units

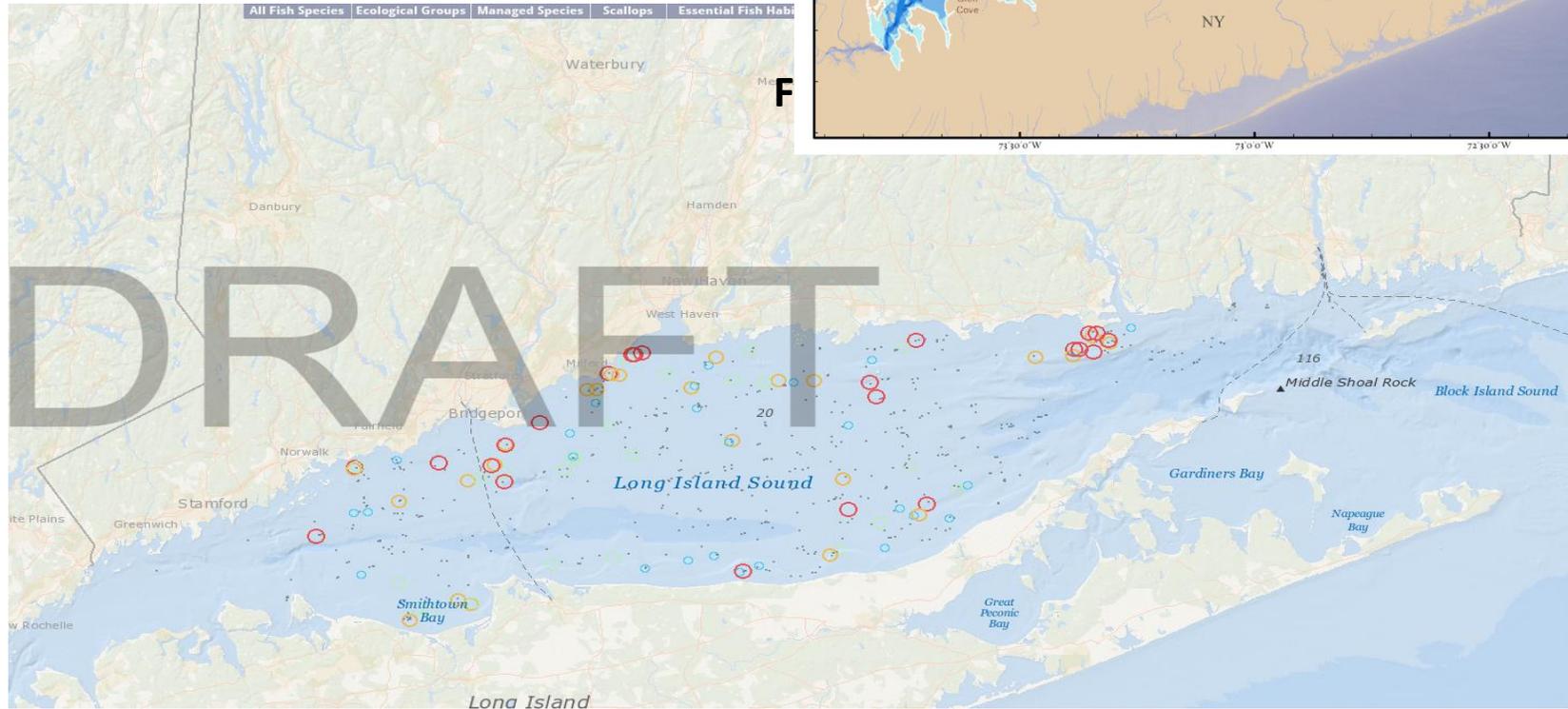
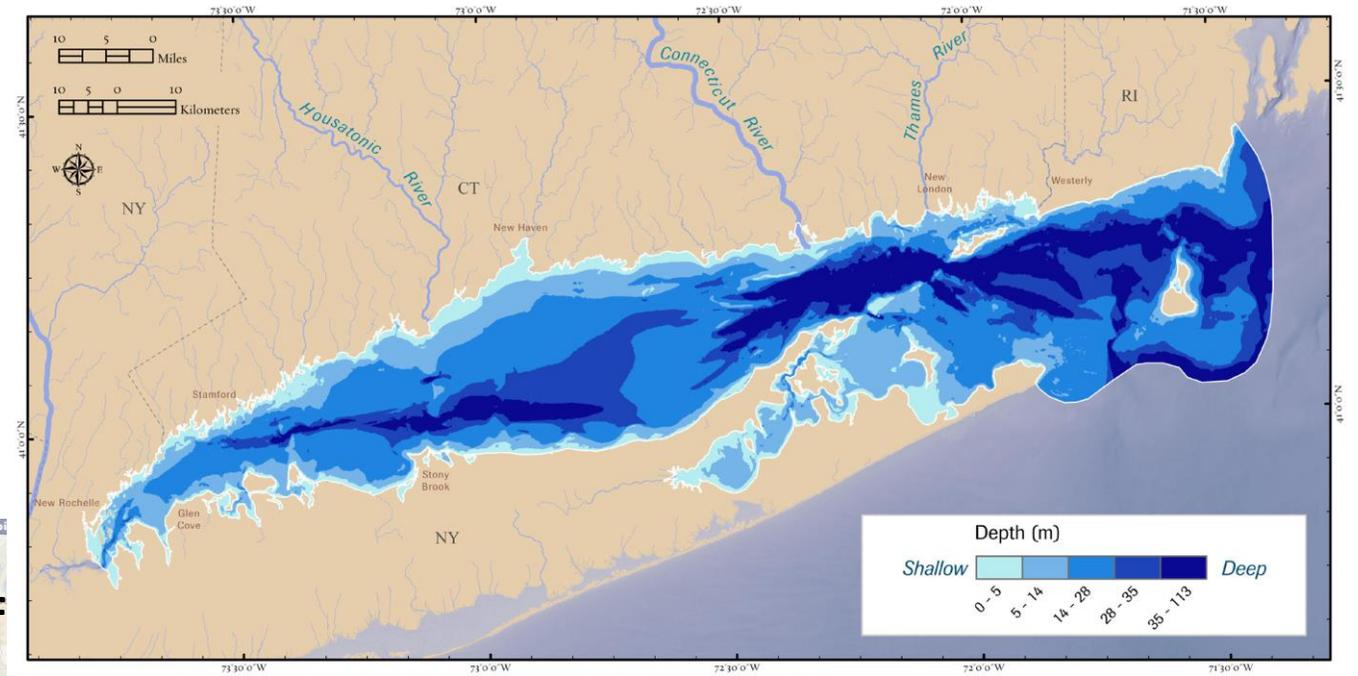
Benthic

Water Column



# Ecological Characterization:

- Yet to be specifically defined
- Based on sound data
- Lots of maps!



# “Ecologically Significant Areas (ESA)”:

- Identify & establish spatial areas that warrant extra attention
- To be used in Blue Plan policy
- Required by Blue Plan statute



# “Ecologically Significant Areas”

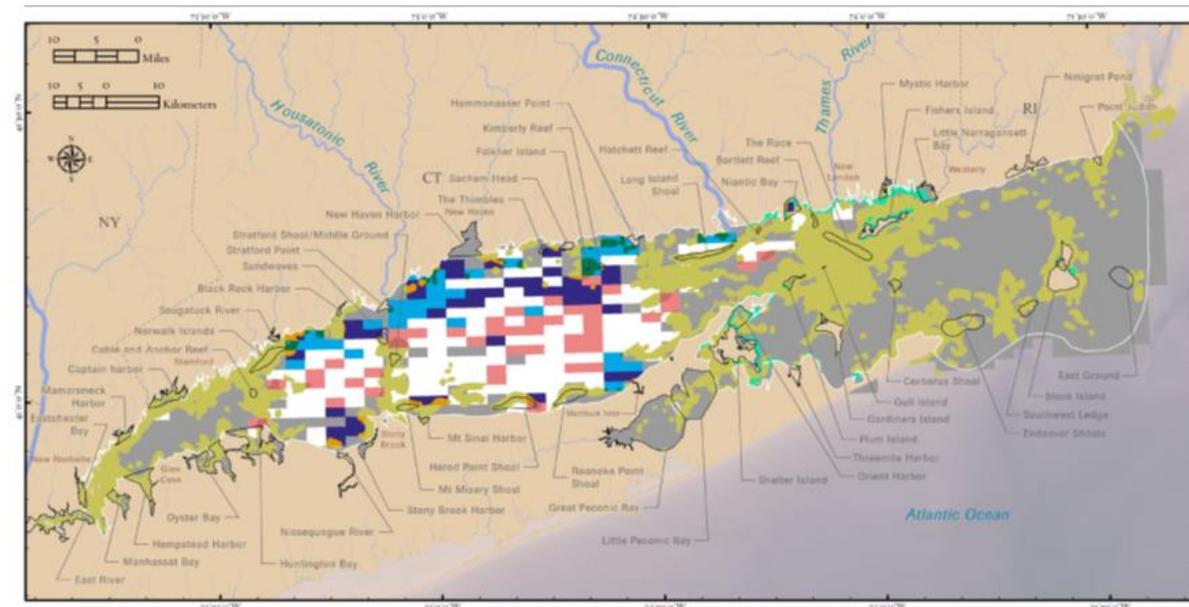
- Yet to be defined
- Use NE Regional Ocean Plan’s “Important Ecological Areas” Framework
- Ecological Characterization a foundation
- Preliminary concepts include:

Essential Fish Habitat

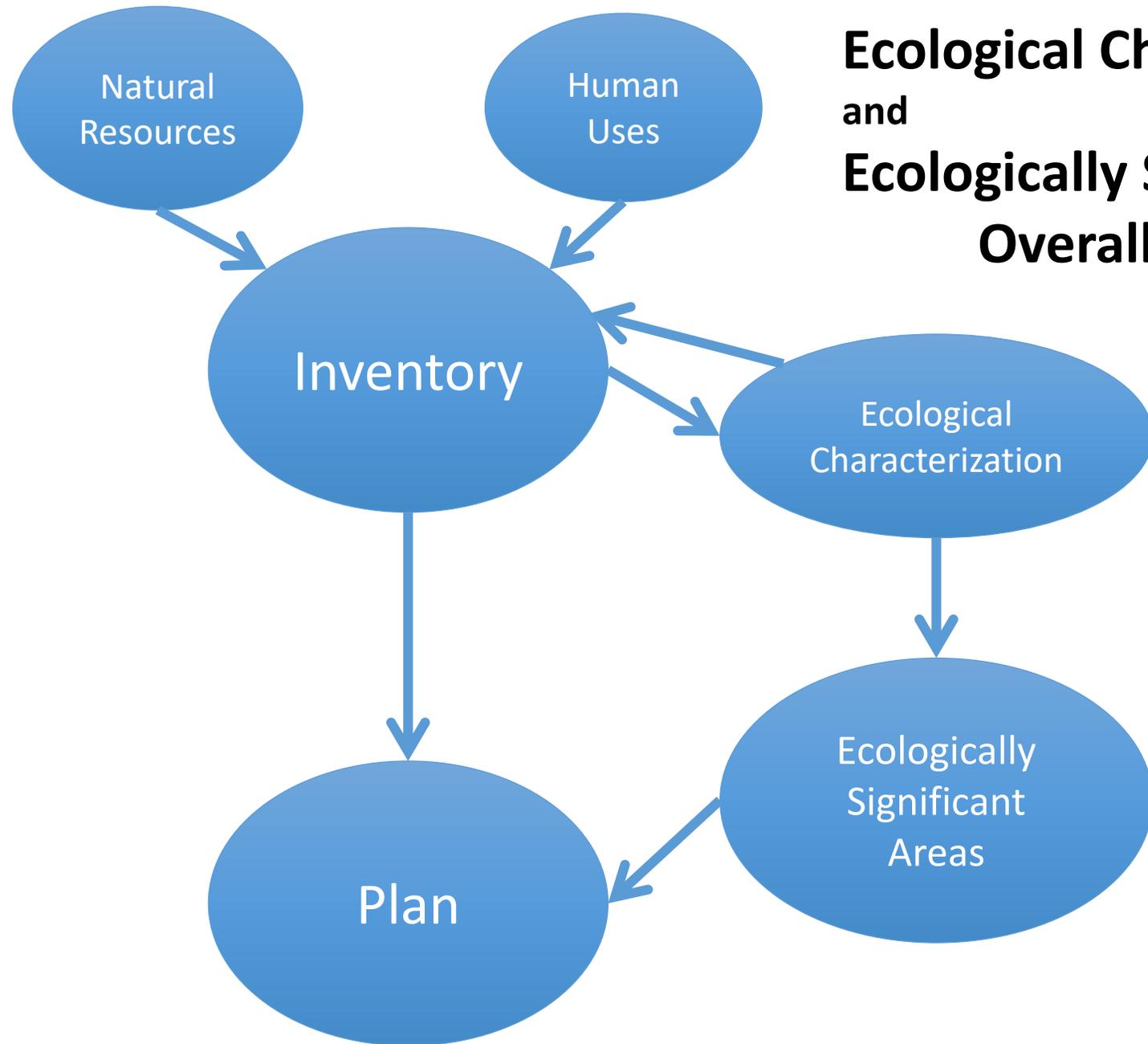
Migratory Pathways

Natural Diversity Database

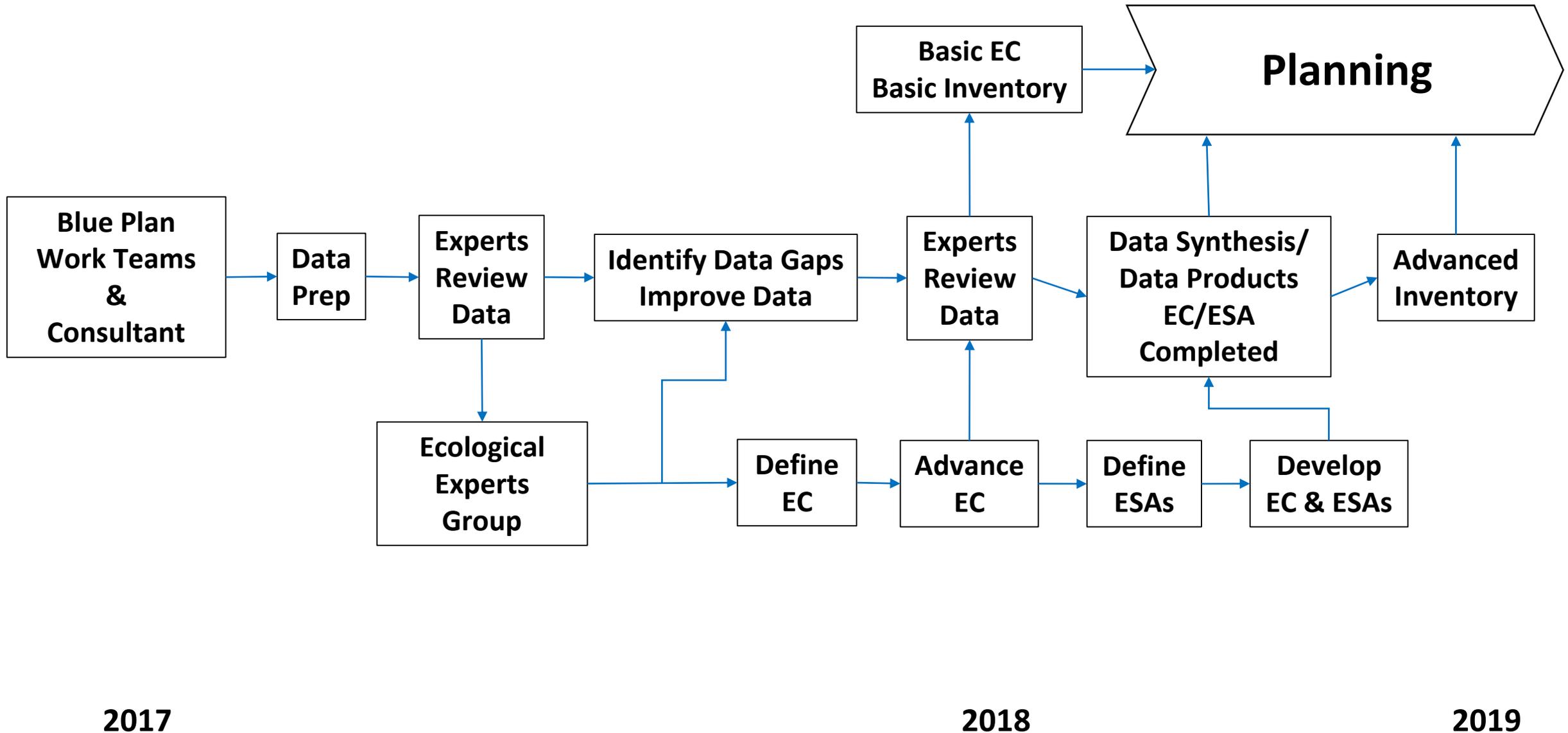
Areas of high species persistence, abundance & diversity



# Ecological Characterization and Ecologically Significant Areas Overall Process



# Ecological Characterization and ESA Process Flowchart:



# Ok, so where do you come in?

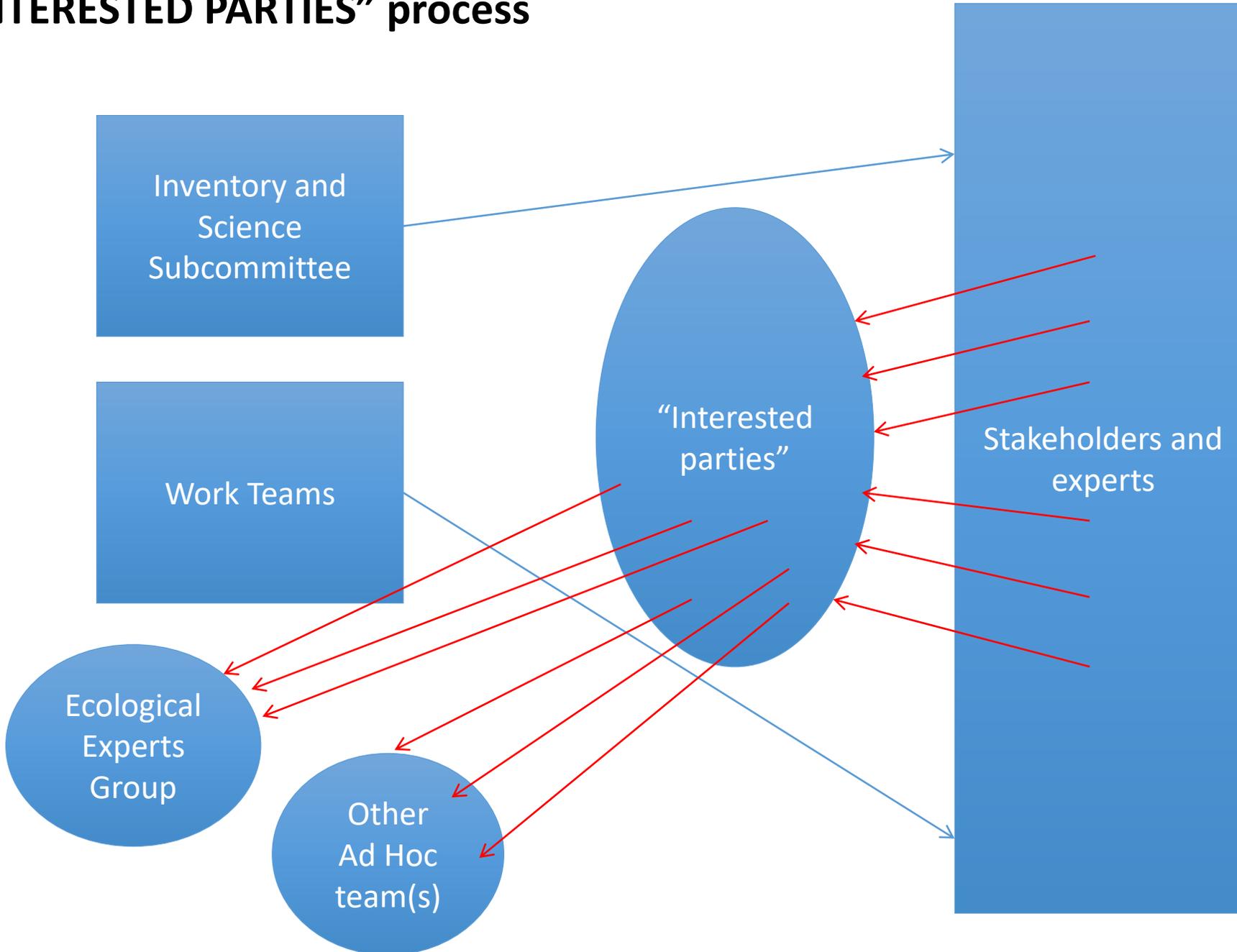
## The “INTERESTED PARTIES” process

You are:

- Scientist/expert re marine ecology/LIS
- May or may not have much time
- Agreed to be included/called re Blue Plan ecological work
- About 100 in number



# The “INTERESTED PARTIES” process





# “INTERESTED PARTIES” process:

## What’s Next?

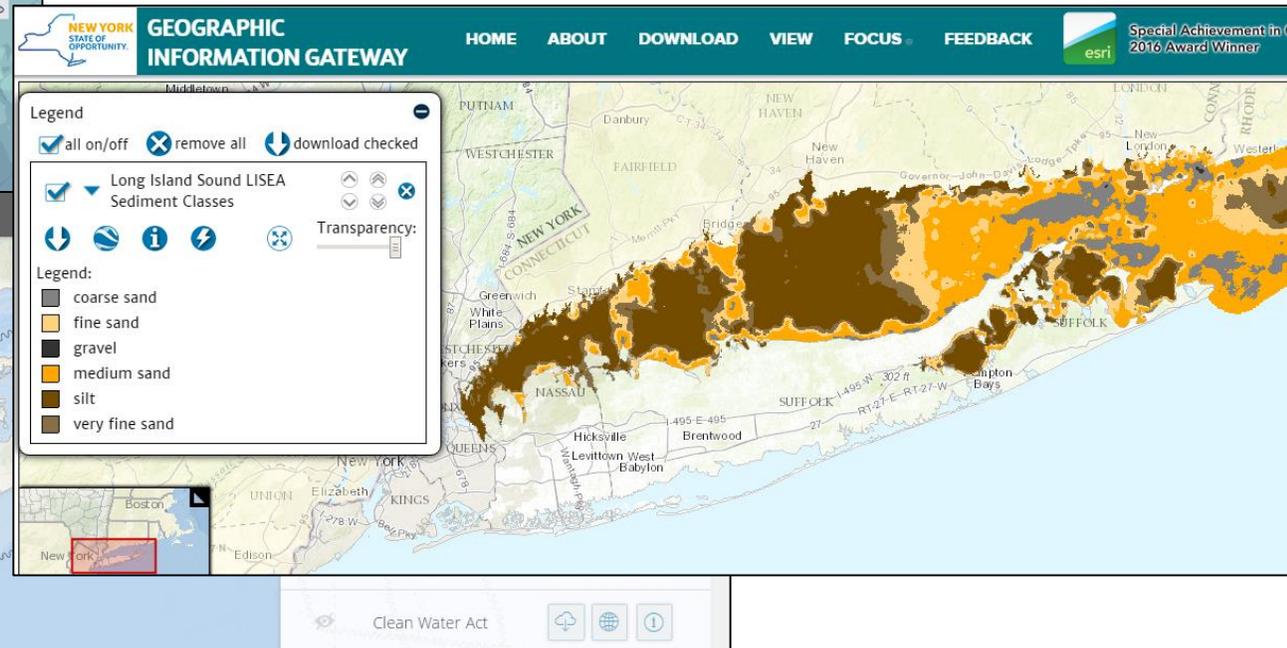
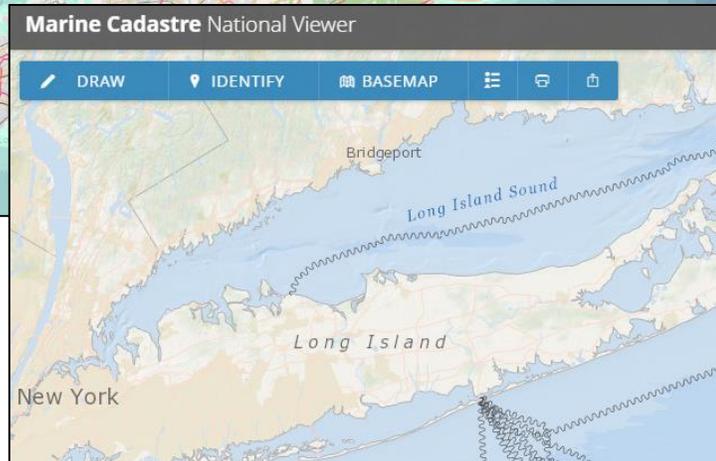
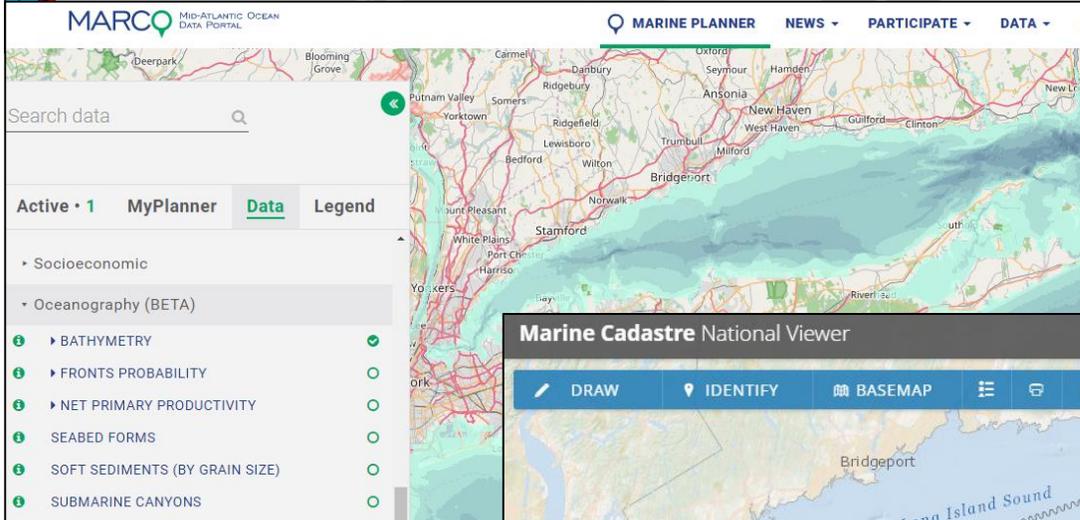
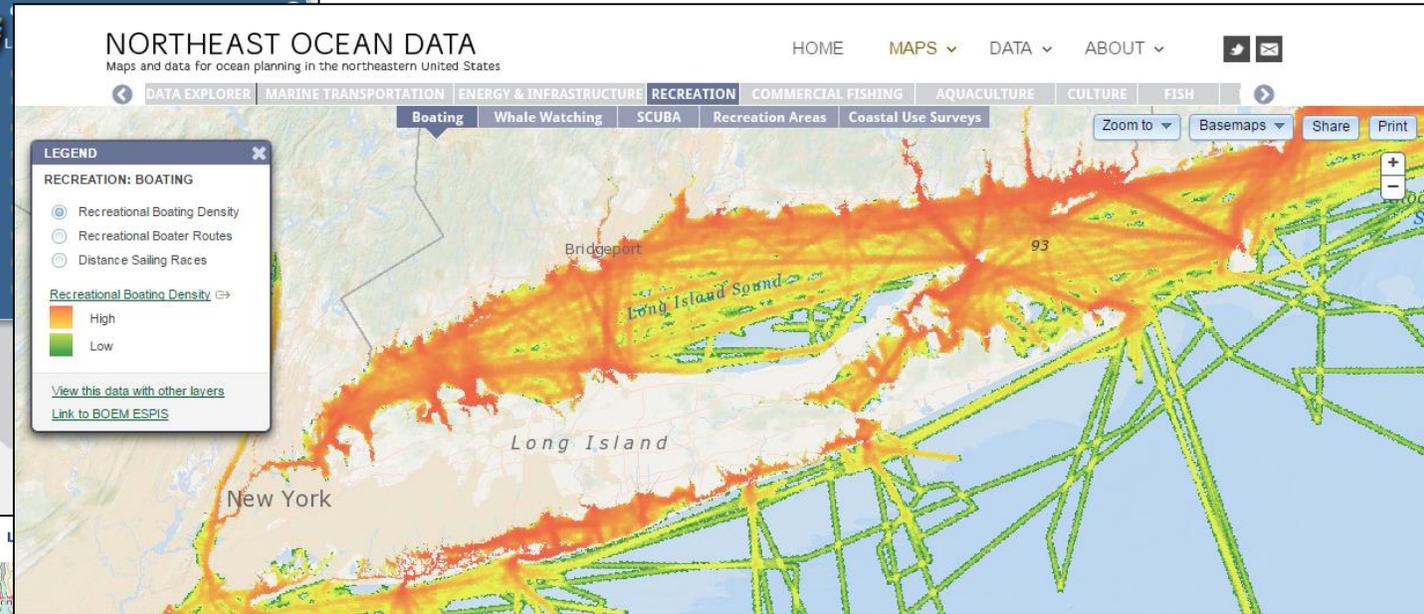
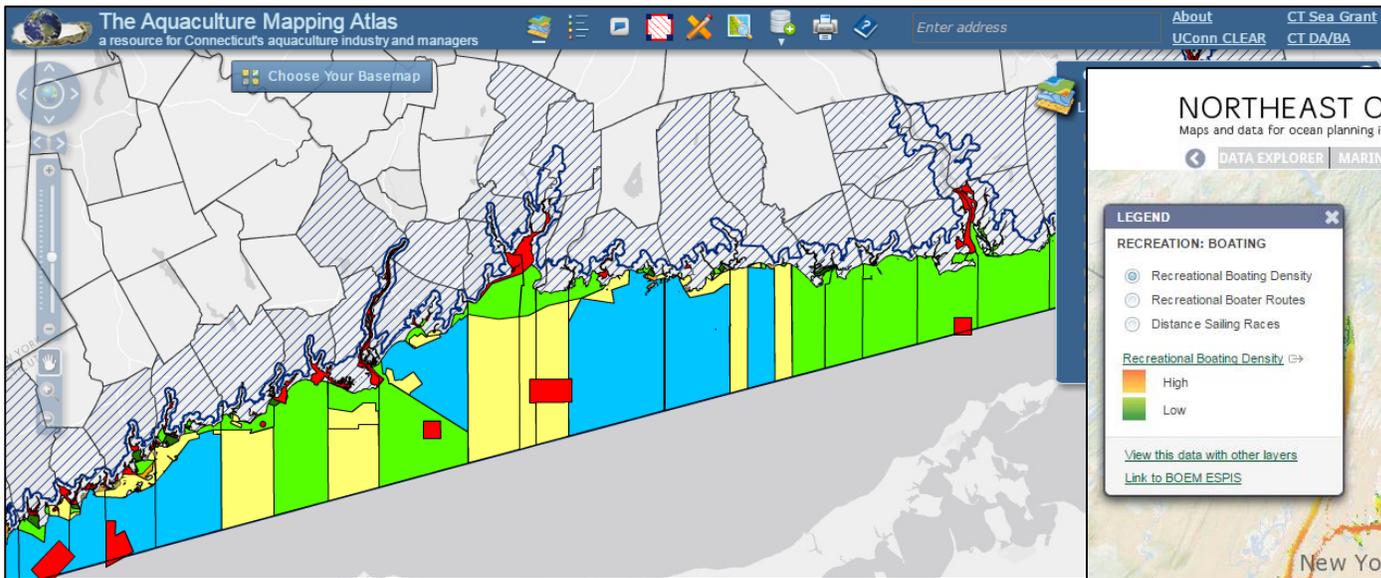
- Retain 8-month consultant: Nick Napoli & Emily Shumchenia
- Your expert review of data & maps
- Forming the Ecological Experts Group
- Staying in touch



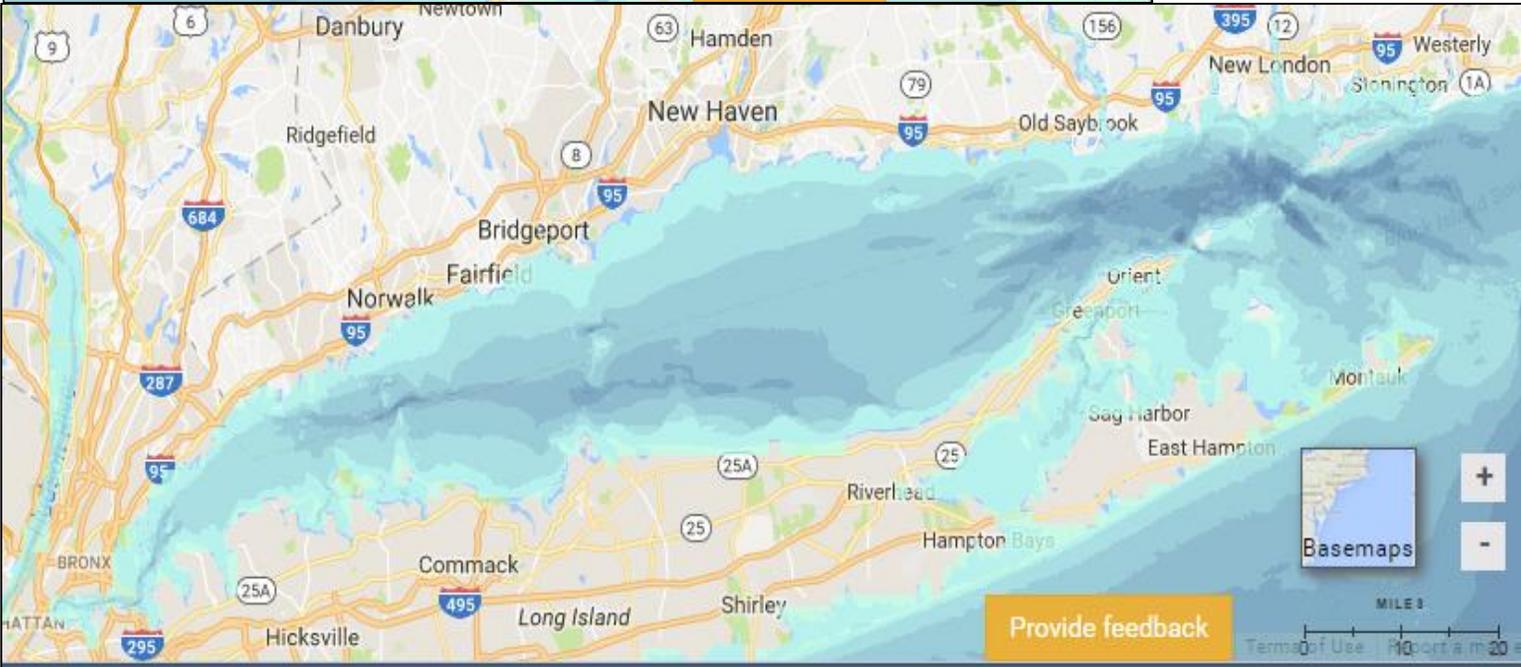
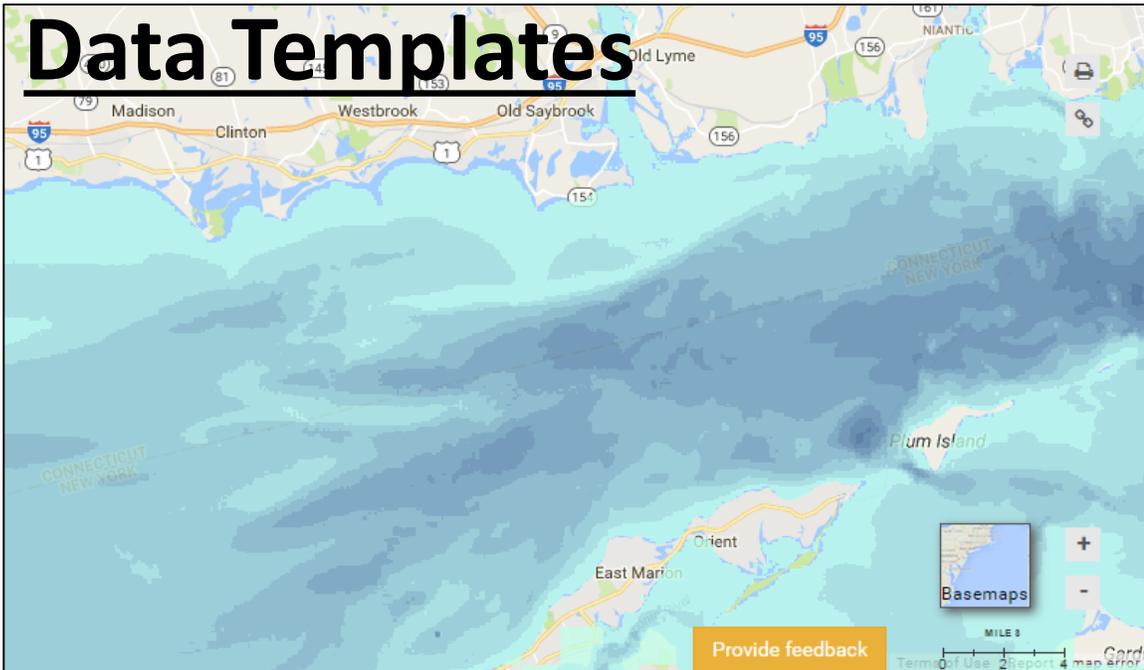
**What is happening now?**



# Rapid Data Readiness Assessment



# Data Templates

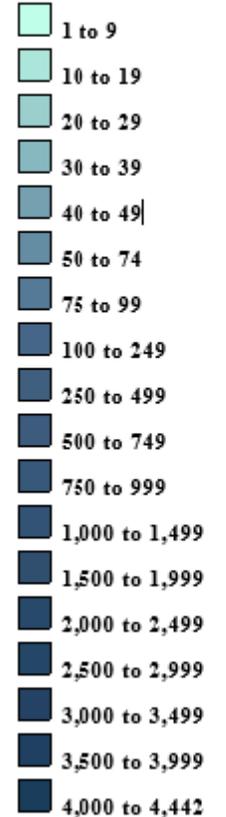


## Regional Bathymetry

(Mid-Atlantic Ocean Data Portal)

**Source:** NOAA National Centers for Environmental Information, NOAA Ship Okeanos Explorer, Center for Coastal and Ocean Mapping/Joint Hydrographic Center (CCOM/JHC)

Regional Bathymetry  
Depth (meters)



# Regional Bathymetry

**Blue Plan Sector(s):** Ecological Characterization > Oceanographic

**Summary Description:** This shows regional bathymetry data as well as high resolution bathymetry data, where it exists, from multiple sources. Included here are regional data compiled from the [Center for Coastal and Ocean Mapping/Joint Hydrographic Center \(CCOM/JHC\)](#) and [U.S. Coastal Relief Model](#), submarine canyon and shelf/slope break bathymetry from NOAA's [Okeanos Explorer](#) missions, and nearshore high resolution bathymetry compiled by NOAA's [National Centers for Environmental Information](#).

**Full Description:**

[http://portal.midatlanticocean.org/static/data\\_manager/metadata/html/BathymetryMetadata.html](http://portal.midatlanticocean.org/static/data_manager/metadata/html/BathymetryMetadata.html)

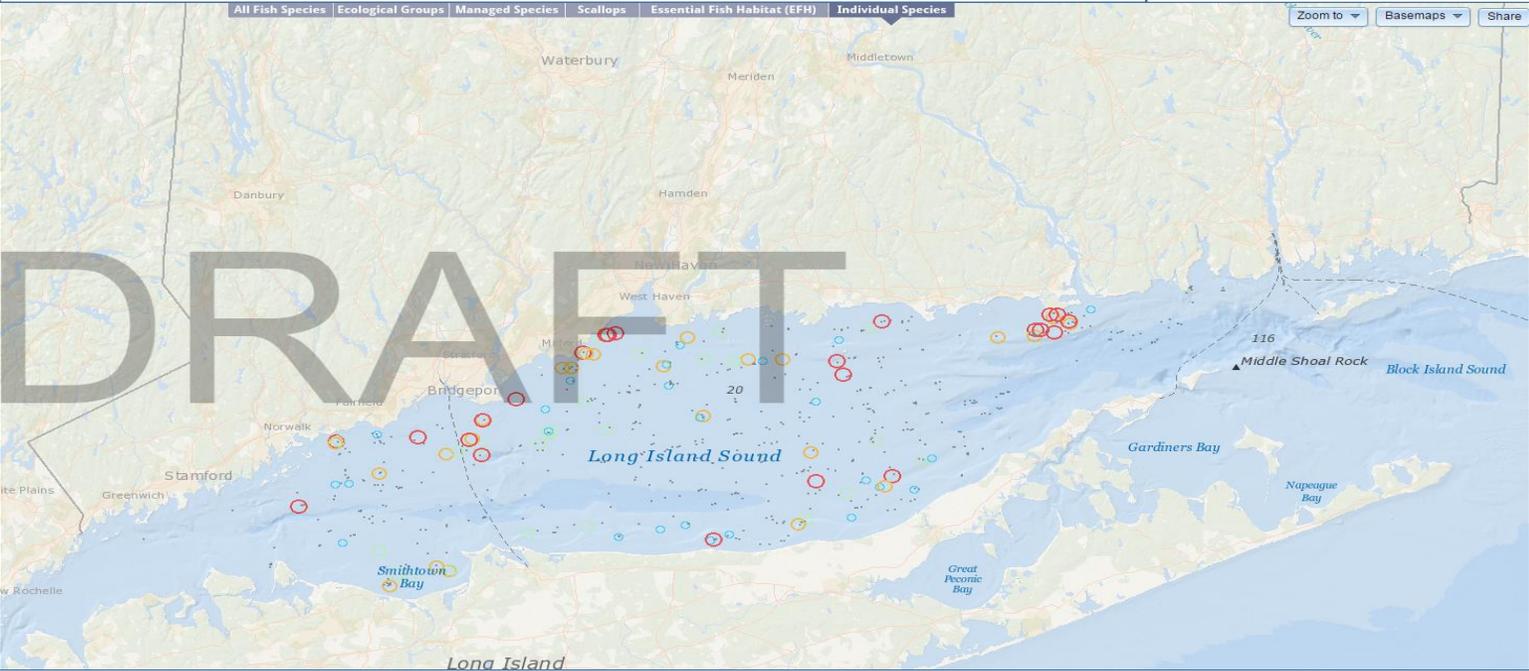
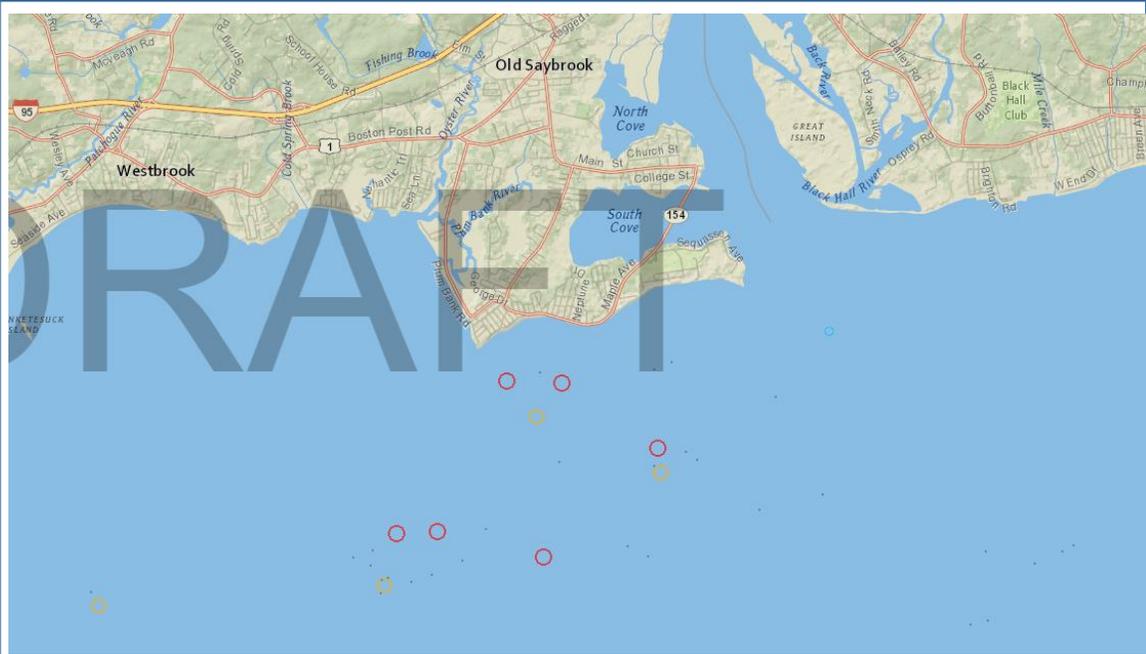
**Access Instructions:** Go to <http://bit.ly/2mdhkVj> or Go to <http://portal.midatlanticocean.org/visualize/> under “Oceanography (BETA)” > “Bathymetry” > “Regional Bathymetry”

# FISH: Individual Species – Striped Bass Log Biomass\*

Northeast Ocean Data Portal

**Source:** CT DEEP Marine Fisheries LIS Bottom Trawl Surveys, Fall 2005 -2014\*\*

\*One of 64 datasets totaling 61 individual fish species plus 3 invertebrates (see list on last page of this summary.)  
\*\*Additional data exists for time period 1992-2014



## FISH: INDIVIDUAL SPECIES

◀ NEAMAP ME/NH CT ▶

### SPECIES

STRIPED BASS ▼

### TIME PERIOD

Fall 2005-2014 ▼

### DATA TYPE (observed)

- Log Biomass
- Mean Log Biomass
- Variance of Log Biomass

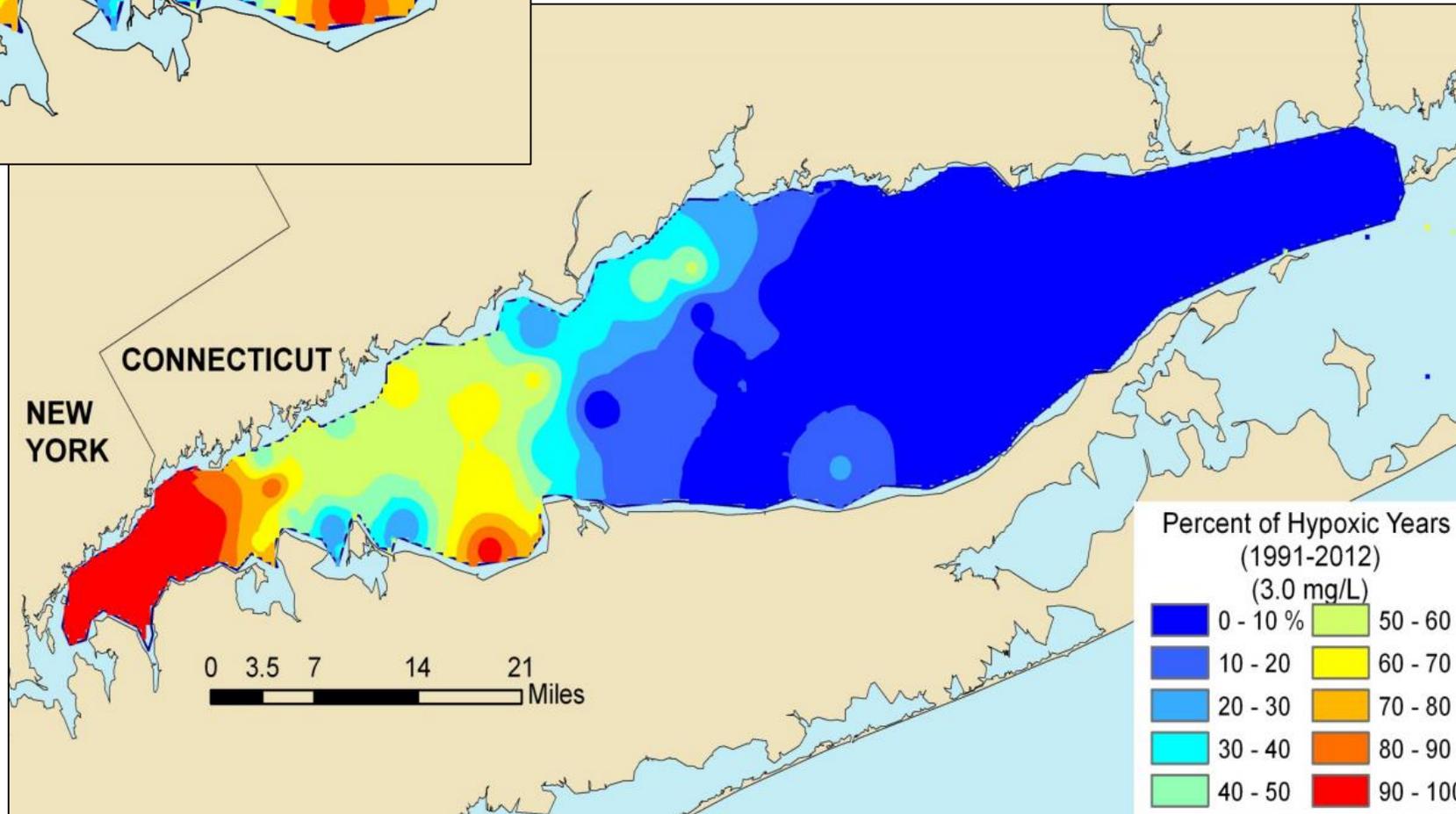
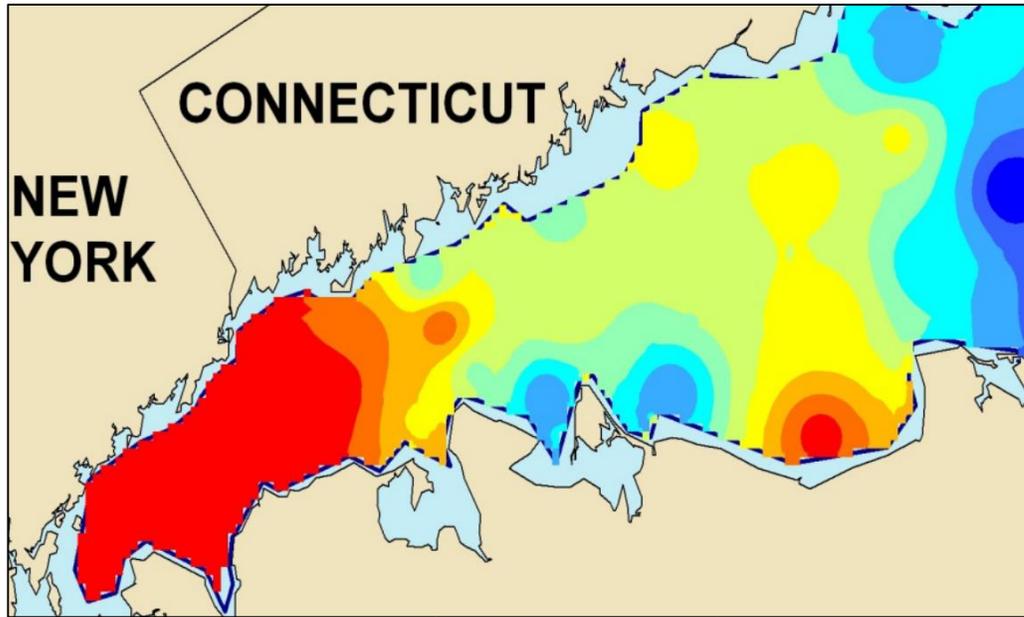
### STRIPED BASS, natural log biomass, Fall 2005-2014

- 0.000000 - 1.223775
- 1.223776 - 1.648659
- 1.648660 - 2.054124
- 2.054125 - 2.595255
- 2.595256 - 5.128715

# Hypoxia Frequency in LIS Bottom Waters – 1991-2012

CT DEEP Website

Source: CT DEEP / Long Island Sound Study LIS Water Quality Monitoring Program

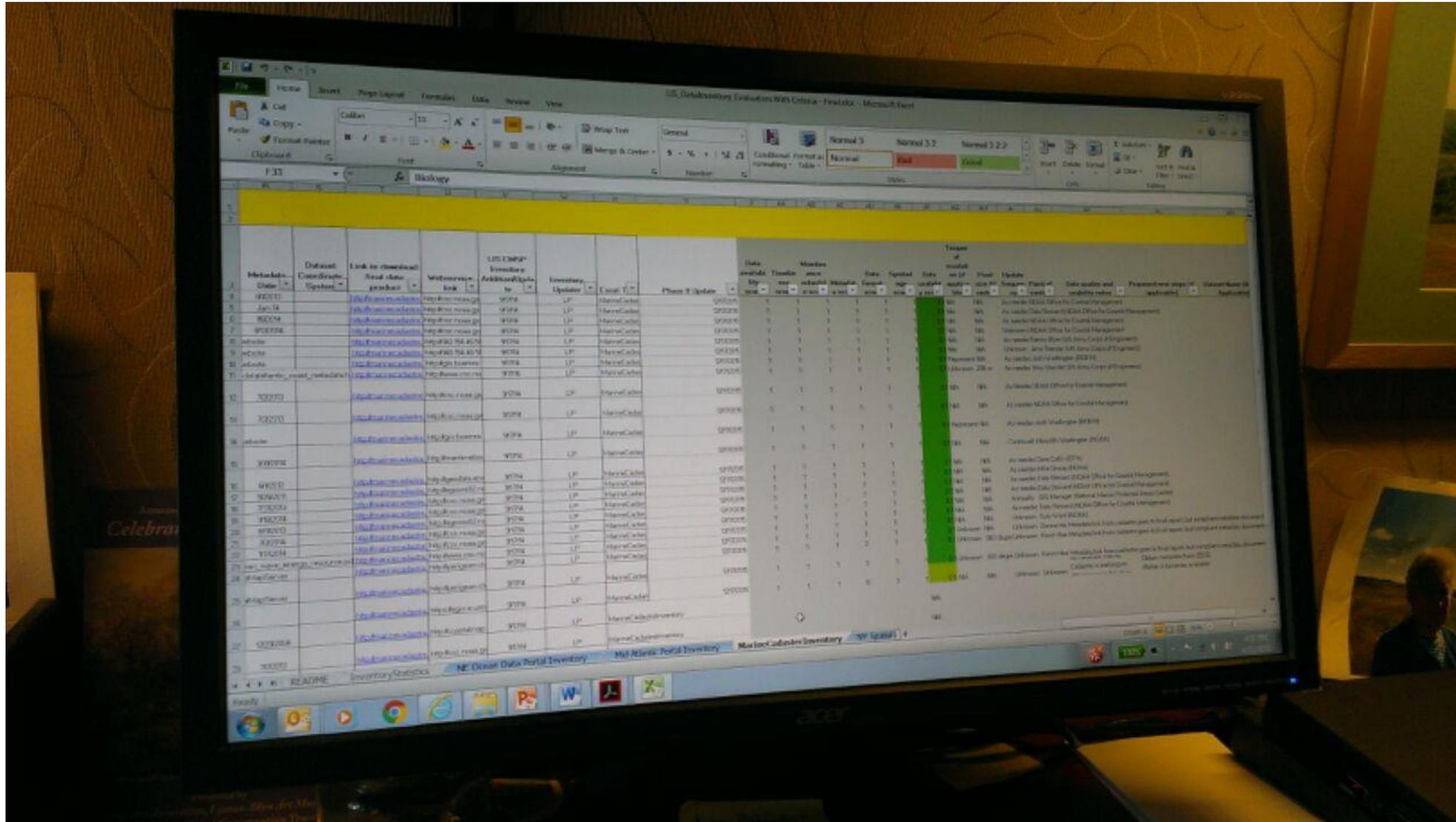


Previously completed:

Excel Spreadsheet of LIS Data & Information

Intern project:

“Framing the Ecological Knowledge of LIS” Grace Reville



# Discussion







# LONG ISLAND SOUND ECOLOGICAL ASSESSMENT

## Summary of Ecologically Notable Places (Integrated Portfolio)

### Water Column Portfolio

Water Column Species (diadromous and pelagic fish)

### Seafloor Portfolio

Bottom Dwelling Species (demersal fish and invertebrates)

Bottom Dwelling Species and Seafloor Complexity

Seafloor Complexity

Seagrass

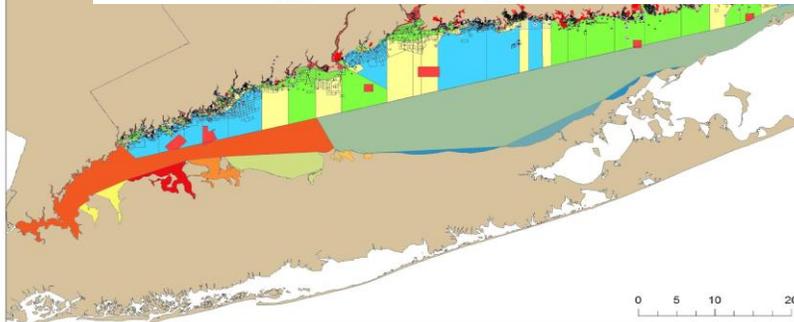
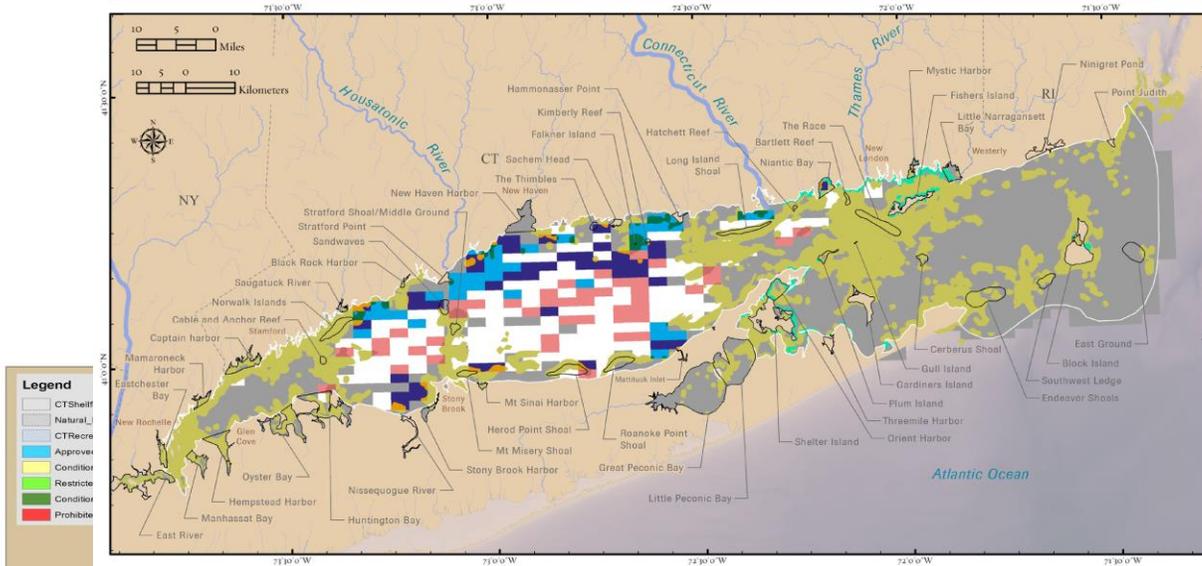
### Overlap of Water Column and Seafloor Portfolio

Water Column Species and Bottom Dwelling Species

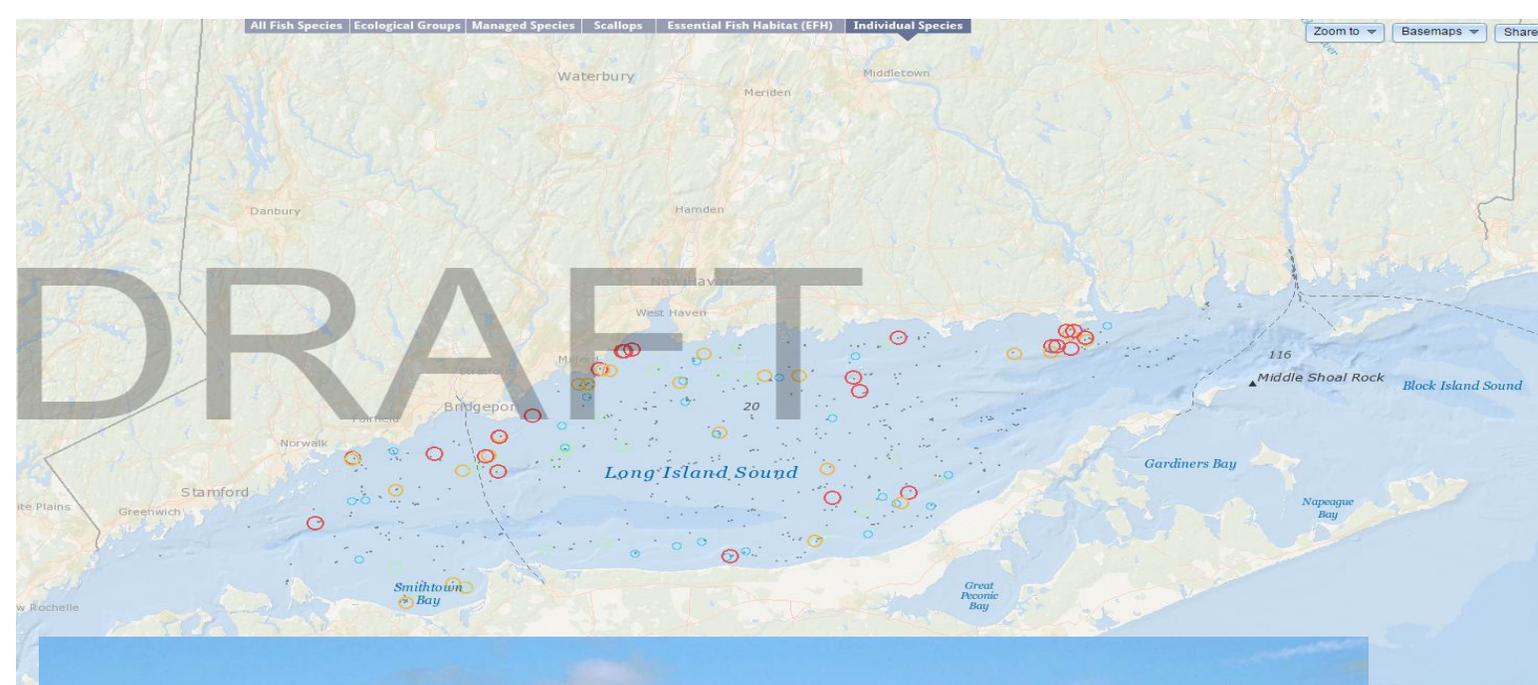
Water Column Species and Seafloor Complexity

Water Column Species, Bottom Dwelling Species, and Seafloor Complexity

Undersampled for Organism Data



Robert Bachand



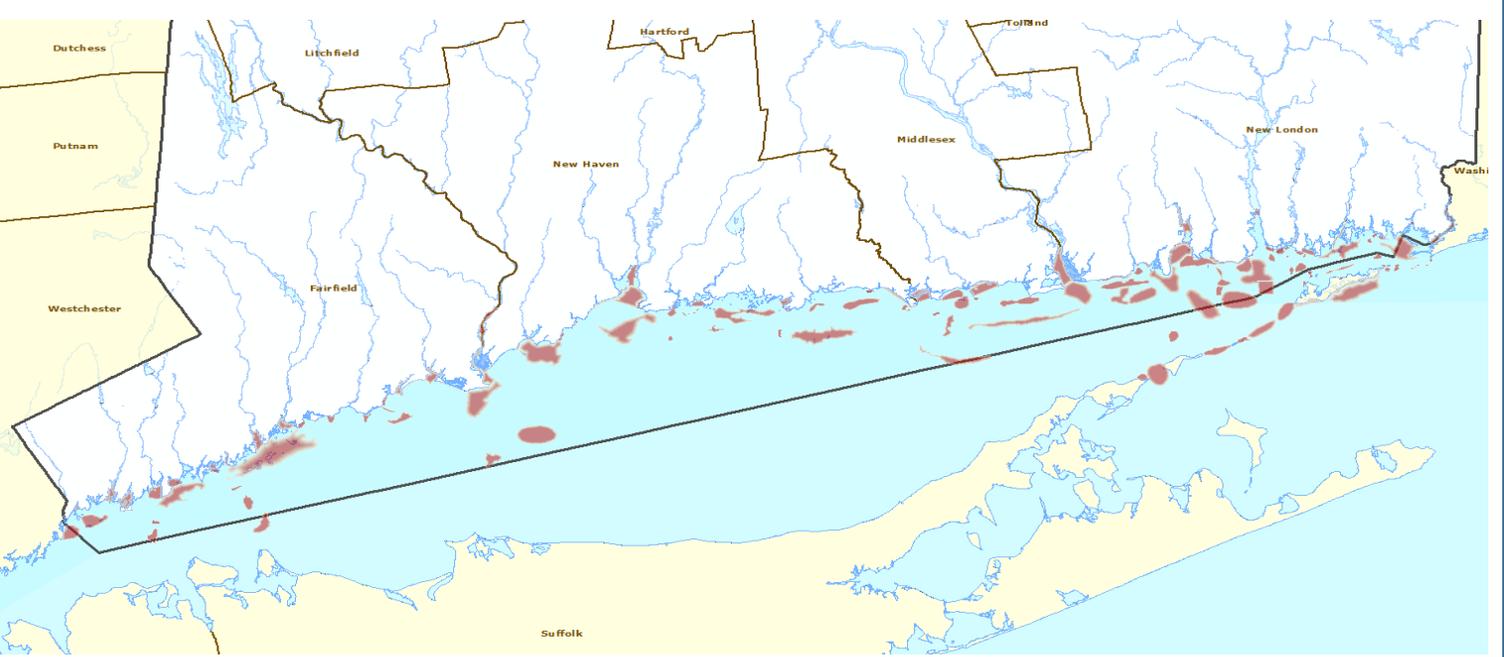
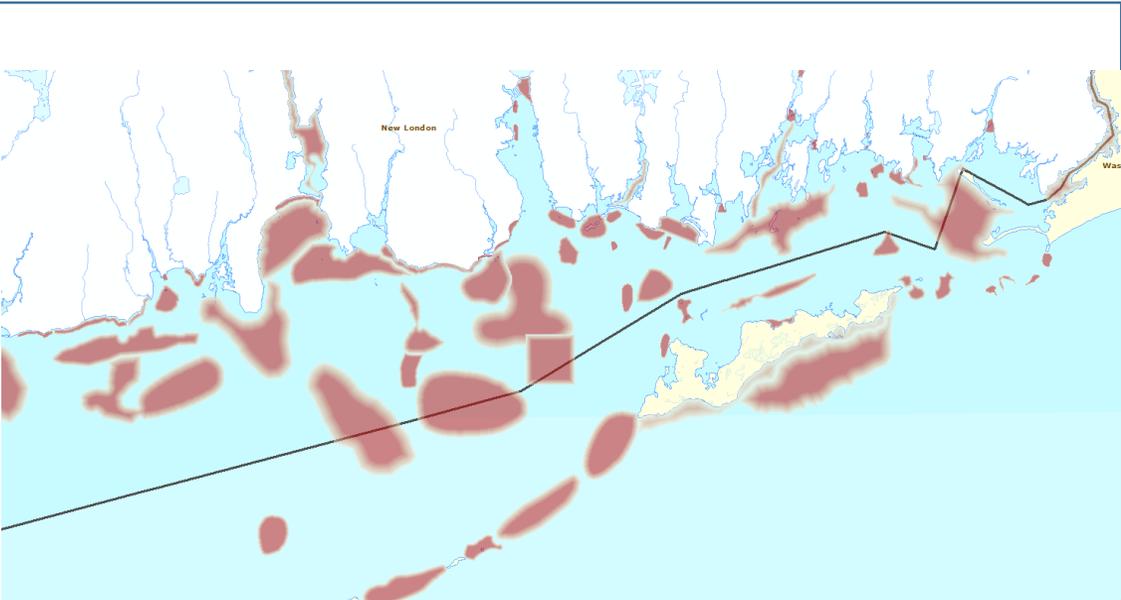
# DRAFT Blue Plan Project Timeline 5/12/16

				2016		2017				2018				2019				2020					
				July-Sept	Oct-Dec	Jan-Mar	Apr-June																
<b>I. Vision, Guiding Principles, Goals &amp; Objectives</b>																							
A. Form a Goals Team				X																			
B. Propose & Adopt				█																			
<b>II. Data and Information</b>																							
A. Form "Inventory and Science" subcom				█																			
B. Establish data portal/data mgmt system				█																			
C. Complete Resource & Use Inventory				█																			
D. Evaluate sufficiency of data (gap analysis)				█																			
E. Talk to sector experts for key planning info				█																			
F. ID data products for planning & generate				█																			
<b>III. Public and Stakeholder Engagement</b>																							
A. Form Stakeholder work team				█																			
B. Form Stakeholder Engagement Plan				█																			
C. ID entities to carry-out stakeholder Plan				█																			
D. Clarify New York stakeholder engagement				█																			
E. Secure stakeholder engagement funding				█																			
F. Implement Public & Stakeholder Engagemt				█																			
<b>IV. Planning Process</b>																							
A. Form Planning Team				█																			
B. Complete Issue Identification				█																			
C. Coordinate w/NE & Mid-A RPB's & NOAA				█																			
D. Clarify NYS Engage/Devise Bi-State Process				█																			
E. Integrate D & I/Stakeholder Engagement wrk				█																			
F. Conduct Ecological Assessment for Plan				█																			
G. Conduct Human Use Assessment for Plan				█																			
H. Develop Blue Plan and Policy components				█																			
I. Final Draft of Blue Plan and Legislative Review				█																			

# LIS Recreational Fishing Activity - 2016

CT DEEP Fisheries

Source: CT DEEP Marine Fisheries, updated 2016



Recreational Fishing Activity

■

## The Blue Plan:

Shall be considered in permit decisions . . .

- DEEP permits (e.g. structures, dredging, fill, water discharges)
- CT Siting Council
- Aquaculture operations
- Seaweed cultivation

Shall identify locations, performance standards & siting measures  
for activities, uses & facilities regulated under existing state programs

